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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/824,654	04/15/2004	Daisuke Moriwaki	NEC04P050-HSd	7708
21254	7590	07/25/2005		
MCGINN & GIBB, PLLC 8321 OLD COURTHOUSE ROAD SUITE 200 VIENNA, VA 22182-3817			EXAMINER SEVER, ANDREW T	
			ART UNIT	PAPER NUMBER
			2851	

DATE MAILED: 07/25/2005

Please find below and/or attached an Office communication concerning this application or proceeding.

## Office Action Summary

Application No.

10/824,654

Applicant(s)

MORIWAKI ET AL.

Examiner

Andrew T. Sever

Art Unit

2851

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

### Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

### Status

- 1) ☐ Responsive to communication(s) filed on \_\_\_\_.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

### Disposition of Claims

- 4) ☒ Claim(s) 1-12 is/are pending in the application.
- 4a) Of the above claim(s) \_\_\_\_ is/are withdrawn from consideration.
- 5) ☐ Claim(s) \_\_\_\_ is/are allowed.
- 6) ☒ Claim(s) 1-12 is/are rejected.
- 7) ☐ Claim(s) \_\_\_\_ is/are objected to.
- 8) ☐ Claim(s) \_\_\_\_ are subject to restriction and/or election requirement.

### Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☒ The drawing(s) filed on 18 August 2004 is/are: a) ☒ accepted or b) ☐ objected to by the Examiner.  
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).  
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

### Priority under 35 U.S.C. § 119

- 12) ☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☒ All b) ☐ Some \* c) ☐ None of:
- 1) ☒ Certified copies of the priority documents have been received.
  - 2) ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_.
  - 3) ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

\* See the attached detailed Office action for a list of the certified copies not received.

### Attachment(s)

- 1) ☒ Notice of References Cited (PTO-892)
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- 3) ☒ Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)  
Paper No(s)/Mail Date 4/15/2004.
- 4) ☐ Interview Summary (PTO-413)  
Paper No(s)/Mail Date. \_\_\_\_.
- 5) ☐ Notice of Informal Patent Application (PTO-152)
- 6) ☐ Other: \_\_\_\_.

**DETAILED ACTION**

***Claim Rejections - 35 USC § 102***

1. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(e) the invention was described in (1) an application for patent, published under section 122(b), by another filed in the United States before the invention by the applicant for patent or (2) a patent granted on an application for patent by another filed in the United States before the invention by the applicant for patent, except that an international application filed under the treaty defined in section 351(a) shall have the effects for purposes of this subsection of an application filed in the United States only if the international application designated the United States and was published under Article 21(2) of such treaty in the English language.

2. Claims 1-12 are rejected under 35 U.S.C. 102(e) as being anticipated by Raskar et al. (US 6,834,965.)

Raskar teaches in figures 1 and 2a a system for correcting approximate expressions used in geometrical correction of projected images, comprising:

A projector (100) which operates under the control of a program; and

A screen (230) onto which an image emitted from said projector is projected,

Wherein said projector includes means for performing a geometrical transformation on a projected image emitted from said projector in accordance with the shape of a projection surface of said screen using a predetermined expression to correct the projected image for distortion due to the shape of the projection surface of said screen, and a value entered for substitution into a variable to transform said approximate expression (figures 11 and 12 teach a method for warping the output images by a transfer function to correct the projected image for distortion due to the shape of the projection surface, the variables used in the function are inputted into the projection system via a camera sub-system 160.)

*With regards to applicant's claim 2:*

See above, wherein input means is camera sub-system (160), calculating means is processor (110), image processing means is also in the processor (110) as well as projector sub-system (150) and optical output means (the projection lens that projector sub-system 150 projects through.)

*With regards to applicant's claim 3:*

A computer is a processor and accordingly the processor of the system of figure 1, can be considered a computer. Since it operates based on instructions stored in Memory (120) it inherently operates under the control of a program (all computers/processors operate under control of a program of at least a rudimentary design in all electronic devices containing computer/processors.)

*With regards to applicant's claims 4-9:*

Raskar teaches in column 2 lines 25-27 and column 4 lines 58-66 that the projector is designed to project on such surfaces as cylinder (as claimed in claims 4-6), domes, and room corners (as is claimed in claims 7-9). Raskar teaches in column 5 lines 53-42 that a least square formula is used to determine the linear equation or quadric equation appropriate to the particular surface(s) to be projected upon. (It should be noted that a parabola is the expected solution of the linear equation to a parabolic screen.)

*With regards to applicant's claim 10-12:*

Raskar teaches that even more irregular/complex patterns of the projection surface can be adjusted for. As is known in mathematical theory, the solution to a sinusoidal waved surface would be polynomial approximating a sinus curve (which would be the approximation of a trigonometric function. It should be noted that computers convert trigonometric functions into polynomials and approximate the results and accordingly Raskar's method of using least square fits to develop a polynomial is the function equivalent to the claimed method of using a trigonometric function.)

### ***Conclusion***

3. The prior art made of record and not relied upon is considered pertinent to applicant's disclosure:

US 2003/0098957 to Haldiman teaches in figure 3 a projector projecting an image between two walls (a corner).

US 6,431,711 to Pinhanez teaches in figure 1 a projection device which is taught in column 2 lines 5-14 to be designed to project on multiple surfaces.

US 2004/0184013 to Raskar et al. teaches in figure 1 a system for projecting warped images onto curved surfaces.

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Any inquiry concerning this communication or earlier communications from the examiner should be directed to Andrew T. Sever whose telephone number is 571-272-2128. The examiner can normally be reached on 9:30-6:00.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Judy Nguyen can be reached on 571-272-2258. The fax phone number for the organization where this application or proceeding is assigned is 703-872-9306.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

AS



**William Perkey**  
Primary Examiner